| Inde | ex of Cl | aims |
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| Application No. | Applicant(s) |
|-----------------|--------------|
| 10/681,136      | HAN ET AL.   |
| Examiner        | Art Unit     |

CARL D. PRICE

3749

| √ | Rejected |
|---|----------|
| = | Allowed  |

| _ | (Through numeral)<br>Cancelled |
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| ÷ | Restricted                     |

| N | Non-Elected  |
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| _ | Interference |

| A | Appeal   |
|---|----------|
| 0 | Objected |

| Cla          | im  |                                       |                                       | ,  | [                                     | Date         | -        |  |                |                 |
|--------------|---|---------------------------------------|---------------------------------------|--|---------------------------------------|--------------|----------|--|----------------|-----------------|
| Final        | Original  | 11/16/04                              | 5/1/05                                | 4 4 12/09/05                                 | 6/21/06                               |              |          |  |                |                 |
| -            | 1   | V                                     | 1                                     | 1  | 1                                     |              |          | _  |                |                 |
|              | 2   | 1                                     | 7 7 7                                 | 1  | 7 7 7                                 |              |          |  |                |                 |
|              | 3   | 1                                     | 1                                     | 1  | 1                                     |              |          | _  |                |                 |
|              | 4   | V                                     |                                       |  |                                       |              |          |  |                |                 |
|              | 5   | V                                     | <b>√</b>                              | <b>V</b>                                     |                                       |              |          |  |                |                 |
|              | 6   | <b>V</b>                              | <b>√</b>                              | <b>√</b>                                     |                                       |              |          |  |                |                 |
|              | 7   | <b>√</b>                              | 1                                     | 7 7 7  | V                                     |              |          |  |                |                 |
|              | 8   | <b>V</b>                              | V                                     | √  | V                                     |              |          |  |                |                 |
|              | 9   | 1                                     | <b>√</b> _                            | V  | V                                     |              |          |  |                |                 |
|              | 10  | V                                     | <b>V</b>                              | <b>√</b> _                                   | V                                     |              |          |  |                |                 |
|              | 11  | <b>V</b>                              | V                                     | V  | V                                     |              |          |  |                |                 |
|              | 12  | 1                                     | <b>V</b>                              | <b>√</b>                                     | V                                     |              |          |  |                |                 |
|              | 13  | V V V V V V V V V V V V V V V V V V V | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1        | V V V V V V V V V V V V V V V V V V V |              |          |  | L              | Ш               |
|              | 14  | ١٧                                    | ٧                                     | <u>الإ</u>                                   | ٧                                     |              |          |  |                | Щ               |
| <u> </u>     | 15  | Υ                                     | ١٧                                    | ٧,   | ٧_                                    |              |          |  | Ь              | Ш               |
|              | 16  | ٧                                     | ٧                                     | ٧ <u> </u>                                   | ٧_                                    |              |          |  |                |                 |
|              | 17  | ٧                                     | 1                                     | ۲  | <u>٧</u>                              |              |          |  |                | Щ               |
|              | 18  | 7                                     | 1                                     | <u>۱۷</u>                                    | 7                                     |              |          |  |                |                 |
|              | 19  |                                       | 7                                     | N<br>V                                       | 7                                     |              |          |  |                | Ш               |
|              | 20  | 1                                     | <u>v</u>                              | <u>                                     </u> | <u> </u>                              |              | _        | _  |                | $\vdash$        |
|              | 21  | ⊢                                     | ├                                     | -  | <del> </del> —                        |              |          | <u> </u>   |                | $\vdash \vdash$ |
|              | 22  | ├                                     | -                                     |  |                                       | -            |          | _  |                | -               |
|              | 23  | <del> </del>                          | -                                     |  | -                                     |              |          | -  |                | Н               |
| <u> </u>     | 25  | $\vdash$                              | $\vdash$                              | $\vdash$                                     | $\vdash$                              |              | -        | -  | _              | $\vdash$        |
| ļ            | 26  | -                                     | -                                     | -  | $\vdash$                              |              | -        | -  |                | $\vdash$        |
|              | 27  | $\vdash$                              | $\vdash$                              |  |                                       |              |          |  |                | Н               |
|              | 28  | <del> </del>                          | -                                     |  | -                                     | _            |          |  |                | Н               |
|              | 29  |                                       |                                       |  |                                       |              |          | _  |                | Н               |
|              | 30  | Н                                     |                                       |  |                                       |              |          |  | _              | Н               |
|              | 31  | Г                                     |                                       | Т  | Г                                     |              |          |  | _              |                 |
|              | 32  | Г                                     |                                       |  |                                       |              | _        |  |                | П               |
|              | 33  |                                       |                                       |  |                                       |              |          |  |                | П               |
|              | 34  |                                       |                                       |  |                                       |              |          |  |                |                 |
|              | 35  | _                                     |                                       |  | <u> </u>                              |              |          |  |                |                 |
|              | 36  |                                       |                                       | <u></u>                                      |                                       |              |          |  |                | Ш               |
| L            | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>11<br>12<br>13<br>14<br>15<br>16<br>17<br>18<br>19<br>20<br>21<br>22<br>23<br>24<br>25<br>26<br>27<br>28<br>29<br>30<br>31<br>31<br>33<br>33<br>34<br>35<br>36<br>37<br>37<br>38<br>38<br>38<br>38<br>38<br>38<br>38<br>38<br>38<br>38<br>38<br>38<br>38 |                                       |                                       |  |                                       |              |          | $ldsymbol{ld}}}}}}$ |                | Ш               |
|              | 38  | <u> </u>                              | _                                     |  | ļ                                     | <u> </u>     |          | Ш  |                | Ш               |
|              | 39  | <u> </u>                              |                                       | _  | ļ                                     |              |          |  | <u> </u>       | Ш               |
| ļ            | 40  | ļ                                     |                                       | <b>!</b>                                     | -                                     | <u> </u>     |          |  | <u> </u>       | Ш               |
| <b> </b>     | 41  | <u> </u>                              | ┞                                     | <del>  -</del>                               | _                                     | _            |          | <u> </u>   | <u> </u>       | Щ               |
| <b></b>      | 42  | $\vdash$                              | ├                                     | <u> </u>                                     |                                       | <u> </u>     | _        | <u> </u>   | <u> </u>       | Н               |
| <u> </u>     | 43  | -                                     | <del> </del> —                        | -  | $\vdash$                              | ├            | <u> </u> | <u> </u>   | <u> </u>       | Н               |
| <b></b> -    | 44<br>45  | $\vdash$                              | $\vdash$                              | -  | -                                     | $\vdash$     | <u> </u> | <u> </u>   | <u> </u>       | Н               |
| $\vdash$     | 45  | $\vdash$                              | $\vdash$                              | $\vdash$                                     | ├-                                    | <del> </del> | <u> </u> | -  | $\vdash$       | Н               |
| <b></b> -    | 47  | $\vdash$                              | $\vdash$                              | $\vdash$                                     | -                                     | <del> </del> | -        | <del>                                     </del>   | <del> </del> - | Н               |
| $\vdash$     | 47  | $\vdash$                              | $\vdash$                              | $\vdash$                                     | -                                     | -            | <u> </u> | $\vdash$   | ├─             | $\vdash\vdash$  |
|              | 49  | $\vdash$                              | $\vdash$                              | -  | ├-                                    | -            | -        | $\vdash$   | $\vdash$       | Н               |
| <del> </del> | 50  | $\vdash$                              | $\vdash$                              | $\vdash$                                     | $\vdash$                              | -            | -        | <del>                                     </del>   | $\vdash$       | H               |

| Cla    | im          |           | -        |              |  | Date         | <del></del>  |          |  |              |    | Cla   | im       |          |          |          |          | ate | <del>-</del>                                     |          |           |                |
|--------|-------------|-----------|----------|--------------|--|--------------|--------------|----------|--|--------------|----|-------|----------|----------|----------|----------|----------|-----|--|----------|-----------|----------------|
|        |             | 1         |          |              |  | ·            |              |          |  |              |    |       |          |          |          |          |          |     |  |          | I         |                |
| 5      | Original    | 11/16/04  | 5/1/05   | 12/09/05     | 6/21/06  |              |              |          |  | Ì            |    | ल     | Original |          |          |          |          |     |  |          |           |                |
| 5      | Ē           | 716       | 12/5     | ő            | /21  |              |              |          |  |              |    | Final | .Ē       |          |          |          |          |     |  |          |           |                |
|        | 0           | 1         | ۷,       | 12           | 9  |              |              |          |  | ŀ            |    |       | 0        |          |          |          |          |     |  |          |           |                |
|        | 1           | 1         | 1        | 1            | 1  |              | _            | _        | _  |              |    |       | 51       |          | $\neg$   | $\neg$   | _        |     | -  |          | $\dashv$  |                |
| $\neg$ |             | Ţ         | Ţ        | V            | V  | _            | _            | -        | _  | $\vdash$     |    |       | 52       |          | _        | $\neg$   |          |     |  |          | $\dashv$  | $\neg$         |
| -      | 3           | Ì         | 7        | 7            | 7  | -            | -            | _        |  | $\vdash$     |    |       | 53       | -        | -        | $\dashv$ |          |     |  | -        | $\dashv$  | $\dashv$       |
| -      | 4           | 7         | ·        | ì            |  |              | _            | _        |  | -            |    |       | 53<br>54 |          | $\dashv$ | $\dashv$ | $\dashv$ |     | $\vdash$   | -        | $\dashv$  | $\dashv$       |
| -      | -           | 7         | 1        | 1            | ₩  |              | _            | _        | _  | ⊢            |    |       | 55       | -        |          | ᅱ        | _        |     |  | -        |           |                |
| -      | 5<br>6<br>7 | 7         | 7        | 7            | 늗  |              | -            | _        |  | -            |    |       | 56       | -        | -        | -        |          |     | Н  |          | $\dashv$  |                |
| _      | 7           | 7         | 1        | 1            | 1  |              |              | -        |  | <u> </u>     |    |       | 56<br>57 | $\dashv$ | -        | $\dashv$ |          |     |  |          | $\dashv$  |                |
|        |             | Ť         | 7        | 7            | 7  | _            |              | -        |  | -            |    |       | 57       | -        | -        | -        | _        |     | -  | _        | $\dashv$  | -              |
| _      | 8           |           | 7        | 1            | 1  | _            |              | ┡        | _  | <u> </u>     |    |       | 58       | $\dashv$ | -        | -        |          |     |  |          |           |                |
| _      | 9           | 7         | 7        | <del>\</del> | 7  |              |              | -        |  |              |    |       | 59       | -        | -        | -        |          |     |  |          |           |                |
| _      | 10          |           |          |              |  |              | _            | _        | $\vdash$   | _            |    |       | 60       | $\dashv$ | _        |          |          |     | _  |          |           |                |
| _      | 11          | 1         | 7        | <b>√</b>     | <b>V</b>   |              |              |          | Щ  | ļ            |    |       | 61       | _        |          | _        |          |     |  |          | $\dashv$  | $\dashv$       |
| _      | 12          | 1         | 1        | <b>V</b>     | <b>√</b>   |              |              | <u> </u> | _  | _            |    |       | 62       | _        | _        |          |          |     |  |          | $\square$ | Ц              |
|        | 13          | 1         | 1        | <b>√</b>     | 1  |              |              | _        |  | L_           |    |       | 63       |          |          |          |          |     |  |          |           |                |
|        | 14          |           | 7        | <b>V</b>     | 1  |              | _            | <u> </u> |  | <u> </u>     |    |       | 64       |          |          |          |          |     | _  |          |           | Щ              |
|        | 15          |           | 1        | 1            | 1  |              |              |          | L  |              |    |       | 65       |          |          |          |          |     |  |          |           | Ш              |
|        | 16          | <b>V</b>  | <b>√</b> | 1            | <b>V</b>   |              | _            |          |  |              |    |       | 66       |          |          |          |          |     |  |          |           |                |
|        | 17          |           | V        | V            | <b>V</b>   |              |              |          |  |              |    |       | 67       |          |          |          |          |     |  |          |           |                |
|        | 18          | $\sqrt{}$ | 1        | V            | <b>√</b>   |              |              |          | L  |              |    |       | 68       |          |          |          |          |     |  |          |           |                |
|        | 19          | 1         | V        | V            | 7  |              |              |          |  |              |    |       | 69       |          |          |          |          |     |  |          |           |                |
|        | 20          | 1         | ٧        | √_           | ٧  |              |              |          |  |              |    |       | 70       |          |          |          |          |     |  |          |           |                |
|        | 21          |           |          |              |  |              |              | Г        |  |              |    |       | 71       |          |          |          |          |     |  |          |           |                |
|        | 22          |           |          |              |  |              |              |          |  |              |    |       | 72       |          |          |          |          |     |  |          |           |                |
|        | 23          |           |          | _            |  |              |              |          |  |              |    |       | 73       |          |          |          |          |     |  |          |           |                |
|        | 24          |           |          |              |  |              |              |          |  |              | 1  |       | 74       |          |          |          |          |     |  |          |           |                |
|        | 25          |           |          |              |  |              |              | _        |  |              | li |       | 75       |          |          |          |          |     |  |          |           |                |
| _      | 25<br>26    |           |          |              |  |              |              | _        |  | <u> </u>     | li |       | 75<br>76 |          |          |          |          |     |  |          |           |                |
|        | 27          |           |          |              |  |              |              |          |  |              |    |       | 77       |          |          |          |          |     |  |          |           |                |
|        | 28          |           |          |              |  |              |              |          |  |              |    |       | 78       |          |          |          |          | -   |  | _        |           |                |
|        | 29          |           |          |              |  |              | -            | ┢        | <del>                                     </del> |              |    |       | 78<br>79 | _        |          |          |          |     |  |          |           | -              |
|        | 30          |           |          |              |  |              |              | -        | -  | -            |    |       | 80       |          |          |          |          |     |  |          |           |                |
|        | 31          |           |          | H            | _  |              |              | -        | -  | -            |    |       | 81       |          |          |          | _        |     | $\vdash$   |          |           | _              |
|        | 32          |           |          | $\vdash$     | $\vdash$   |              | -            | _        | Н  | $\vdash$     |    |       | 82       |          |          |          |          |     |  |          |           | $\Box$         |
| _      | 33          |           |          | _            | <del>                                     </del> |              | $\vdash$     | -        | -  | -            |    |       | 83       |          |          |          |          |     | <del>                                     </del> | -        |           |                |
| $\neg$ | 34          |           | -        | -            | Н  |              | -            | H        | -  | ┢            |    |       | 84       | Н        | _        | _        | _        |     | $\vdash$   | _        | Н         | $\vdash$       |
| _      | 35          |           |          | $\vdash$     | -  |              | $\vdash$     | _        | -  | ┪            | i  |       | 85       | Н        |          | -        | _        | _   | -  |          | $\dashv$  | $\vdash$       |
| -      | 36          | _         | -        | -            |  | -            | -            | -        |  | $\vdash$     |    |       | 86       | Н        |          |          |          |     | -  |          | $\neg$    | $\vdash$       |
|        | 37          |           | -        | -            | -  | -            | $\vdash$     | -        | Н  | $\vdash$     |    |       | 86<br>87 | Н        |          |          |          |     | -  |          | -         |                |
|        | 38          |           | Н        | $\vdash$     | -  |              | ├            |          | -  | <u> </u>     |    |       | 88       | Н        | _        | _        |          |     | $\vdash$   |          | Н         | $\vdash$       |
|        | 39          |           | H        | ┢            | -  | -            | -            |          | _  |              |    |       | 89       | $\vdash$ | _        |          |          |     | $\vdash$   |          | Н         | $\vdash$       |
| =      | 40          |           |          | $\vdash$     | -  | -            | -            | -        | <del> -</del>                                    |              |    |       | 90       | Н        |          | _        |          |     | $\vdash$   |          | Н         | -              |
| _      | 41          |           |          | -            |  | ┝            | ├─           | _        | H  | ┢            |    |       | 91       | $\vdash$ |          |          |          | _   | H  | -        |           |                |
| _      | 42          | -         | -        | -            |  | <del> </del> | ├─           | -        | _  | ⊢            |    |       | 92       | -        | -        | _        | _        | —   | -  |          |           | H              |
|        | 43          | $\vdash$  | $\vdash$ | $\vdash$     | -  |              | ├            | ├-       | ⊢  | $\vdash$     |    |       | 93       | $\vdash$ |          |          | -        |     |  | $\vdash$ | $\vdash$  | Н              |
|        | 44          | <b>-</b>  | $\vdash$ | ├            | $\vdash$   | ├-           | <del> </del> | -        | $\vdash$   | ├-           |    |       |          | Н        |          | $\vdash$ |          |     |  | $\vdash$ | $\vdash$  | $\vdash\vdash$ |
|        | 45          | $\vdash$  | H        | $\vdash$     | $\vdash$   | $\vdash$     | ├            | ├        | $\vdash$   | $\vdash$     |    |       | 94       | <u> </u> |          |          | -        |     |  |          | $\vdash$  |                |
| _      |             | $\vdash$  | $\vdash$ | ⊢            | <del> </del>                                     | <b>—</b>     | ├-           | ├        | <u> </u>   | $\vdash$     |    |       | 95       | $\vdash$ | _        | Ш        |          |     | -  | $\vdash$ | $\vdash$  | $\vdash$       |
| _      | 46          | $\vdash$  | -        | ├            | -  | -            | <u> </u>     | _        | <u> </u>   | -            |    |       | 96       | $\vdash$ |          |          |          | _   | $\vdash$   | $\vdash$ | $\vdash$  | Н              |
| _      | 47          | $\vdash$  | $\vdash$ | $\vdash$     | $\vdash$   |              | <del> </del> | ⊢_       | <u> </u>   | <del> </del> |    |       | 97       |          | _        |          | <b>_</b> |     | $\vdash$   | $\vdash$ | Ш         |                |
|        | 48          | $\vdash$  | $\vdash$ | -            | -  | <u> </u>     | <u> </u>     | <u> </u> | <u> </u>   | <u> </u>     |    |       | 98       |          |          |          |          |     | $\vdash$   | H        |           | Щ              |
|        | 49          |           | H        | <u> </u>     |  | <u> </u>     | <u> </u>     |          | _  | _            |    |       | 99       | Щ        |          |          |          | _   | $\vdash$   |          | $\square$ |                |
|        | 50          |           |          |              |  | Щ.           |              | L        |  | <u> </u>     |    |       | 100      | L        |          | L.,      | L        | L   | <u> </u>   | L        | Ш         |                |

|          | ,                               | _              |  |          |                    |          |                                |          |          |                 |  |
|----------|---------------------------------|----------------|--|----------|--------------------|----------|--------------------------------|----------|----------|-----------------|--|
| Cla      | aim                             | Date           |  |          |                    |          |                                |          |          |                 |  |
| Final    | Original                        |                |  |          |                    |          |                                |          |          |                 |  |
|          | 101                             |                |  |          |                    |          |                                |          |          |                 |  |
|          | 102                             |                |  |          |                    |          |                                |          |          |                 |  |
|          | 103                             | _              |  | L        |                    |          |                                |          |          |                 |  |
|          | 104<br>105                      |                |  |          |                    |          |                                |          |          |                 |  |
|          | 105                             |                |  | <u> </u> |                    |          |                                |          |          |                 |  |
|          | 106                             | -              | -  | -        | -                  |          |                                |          |          | _               |  |
|          | 107<br>108<br>109               |                |  |          |                    |          |                                |          | _        |                 |  |
|          | 109                             |                |  | -        |                    |          |                                | _        | _        |                 |  |
|          | 110                             |                |  |          |                    |          |                                |          |          |                 |  |
|          | 111                             |                |  |          |                    |          |                                |          |          |                 |  |
|          | 112<br>113                      |                |  |          |                    |          |                                |          |          |                 |  |
|          | 113                             |                |  |          |                    |          |                                |          |          |                 |  |
|          | 114                             |                | _  | Ш        |                    |          | <u></u>                        |          | _        | $\Box$          |  |
|          | 115<br>116                      | $\vdash$       | <u> </u>                                   |          |                    |          | <u> </u>                       |          |          | $\dashv$        |  |
| -        | 116                             | ⊢              |  | H        |                    | _        | _                              |          | -        | $\dashv$        |  |
|          | 118                             | -              |  | ├        |                    | -        |                                |          | _        | -               |  |
|          | 118<br>119                      | -              |  |          | -                  | -        |                                |          |          | $\dashv$        |  |
|          | 120                             | -              | -  |          |                    | -        | -                              | ·        | _        | $\dashv$        |  |
|          | 121                             |                |  |          |                    |          |                                |          |          | П               |  |
|          | 120<br>121<br>122               |                |  |          | П                  |          |                                |          |          |                 |  |
|          | 123<br>124<br>125               |                |  |          |                    |          |                                |          |          |                 |  |
|          | 124                             |                |  |          |                    |          |                                |          |          |                 |  |
|          | 125                             |                | _  |          | <u> </u>           | _        | _                              | ldash    |          |                 |  |
| ļ        | 126                             | <u> </u>       |  |          |                    |          |                                | <u> </u> |          | Н               |  |
|          | 126<br>127<br>128<br>129<br>130 | <del> </del>   |  |          | ├                  | -        | -                              | -        |          | H               |  |
|          | 120                             | $\vdash$       | -  | -        | $\vdash$           | ┝        | ┢                              | ┝╌       | $\vdash$ | $\dashv$        |  |
|          | 130                             |                |  | H        | $\vdash$           |          |                                |          |          | Н               |  |
|          | 131                             | T              |  |          |                    |          |                                |          |          |                 |  |
|          | 132                             |                |  |          |                    |          |                                |          |          |                 |  |
|          | 133                             |                |  |          |                    |          |                                |          |          |                 |  |
|          | 134                             |                | _  |          | _                  |          | <u> </u>                       |          | _        | Ш               |  |
|          | 135                             | <u> </u>       | _  | ļ        | ļ                  |          | ļ                              | ļ        | _        | Щ               |  |
|          | 136                             | $\vdash$       | H  | -        | $\vdash$           | -        | -                              | -        | <u> </u> | Н               |  |
| <u> </u> | 137<br>138                      | ├              | ├  | $\vdash$ | -                  | -        | $\vdash$                       | $\vdash$ |          | $\vdash$        |  |
|          | 139                             | -              | $\vdash$                                   | $\vdash$ | ┢                  | $\vdash$ | $\vdash$                       | $\vdash$ |          | Н               |  |
|          | 140                             | _              | _  |          |                    |          |                                |          | -        | Н               |  |
|          | 141                             |                |  |          |                    |          |                                |          |          |                 |  |
|          | 142                             |                |  |          |                    |          |                                |          |          |                 |  |
|          | 143                             | oxdot          | $oxedsymbol{oxedsymbol{oxedsymbol{oxed}}}$ |          | $ar{ar{}}$         | L        | $oxedsymbol{oxedsymbol{oxed}}$ |          | L        |                 |  |
| <u> </u> | 144                             |                | <u> </u>                                   | _        | $oxedsymbol{oxed}$ | _        | _                              | _        | <u> </u> | Ш               |  |
| <u> </u> | 145                             | ₽              | <u> </u>                                   | <u> </u> | L                  | _        | <u> </u>                       | -        | _        | dash            |  |
| <u> </u> | 146                             | ├—             | _  | -        | <u> </u>           | $\vdash$ | L                              |          | -        | $\vdash\vdash$  |  |
| ├        | 147<br>148                      | <del> </del> — | -  | $\vdash$ | -                  | $\vdash$ | $\vdash$                       | $\vdash$ | $\vdash$ | $\vdash\vdash$  |  |
|          | 149                             | -              | -  | -        | $\vdash$           | -        | $\vdash$                       | $\vdash$ | $\vdash$ | $\vdash$        |  |
|          | 150                             | -              |  | $\vdash$ | $\vdash$           | $\vdash$ | $\vdash$                       | $\vdash$ | $\vdash$ | $\vdash \vdash$ |  |
|          | 1.50                            | <u> —</u>      | <u> </u>                                   |          | L                  |          | Ц.                             | L        | <u></u>  | لـــا           |  |